

[STI METHOD FOR SEMICONDUCTOR PROCESSES]

Abstract of Disclosure

A shallow trench isolation (STI) method for use in semiconductor processes, with the method including the following steps. Having a substrate with a top surface, and forming a trench-patterned mask layer on the top surface to expose an unmasked trench region of the substrate, the mask layer including a pad oxide layer and a silicon nitride layer formed on the pad oxide layer. Etching the unmasked region of the substrate to form a trench on the substrate, depositing an HTO (high temperature oxide) film over the substrate to cover the trench and the mask layer, depositing a dielectric layer to fill the trench and to cover the HTO film, planarizing the dielectric layer to expose the silicon nitride layer, and stripping the silicon nitride.

Figures